Yukon Wildlife Key Area Inventory

User's Manual

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1 Introduction

This document describes the Wildlife Key Area (WKA) Inventory, including an overview of the Inventory, criteria used to identify WKAs, and a list of available WKA products. It also contains the end-user licence agreement, which all users of WKA Inventory products are expected to adhere to.

The WKA Inventory data are available in various formats to support specific users or GIS technology. Technical information pertaining to each format is available in separate documents distributed with each format.

2 The Yukon Wildlife Key Area Inventory

2.1 The Wildlife Key Area Inventory in the Yukon Habitat Programs Section

The Habitat Programs Section of the Yukon Department of Environment works to ensure that there is enough good quality habitat to maintain wildlife populations. Inventory is a priority, since all other components of the program depend on current and detailed information about wildlife habitat.

A major goal of the Habitat Programs Section is to catalogue the location, distribution and abundance of **key** areas for legally harvested and protected wildlife species.

Wildlife Key Area is a concept devised and adopted by the Department of Renewable Resources back in 1988 to inventory locations important to populations of legally harvested and protected wildlife species. The WKA Inventory Program evolved from a manual, hand-drawn map system to a fully digital, spatial, relational database system currently managed and maintained by Yukon Department of Environment, Habitat Programs Section.

2.2 What are Key Areas?

Wildlife Key Areas are geographical locations used by wildlife for critical, seasonal life functions. Each wildlife species use these specific areas for a distinct purpose. For example, in winter thinhorn sheep forage on grasses and forbs only available on limited winter ranges. Many species like sheep use key areas traditionally, around the same time each year, while others (e.g. moose) will use them only occasionally when they are forced to by factors such as severe weather. Often animals aggregate on key areas in relatively large numbers, making populations vulnerable to disturbance or direct habitat loss. So, in general, if key areas are destroyed or the animals using them are disturbed the population would decrease, as would its likelihood of survival. Key areas need to be protected to maintain the health and sustainability of wildlife populations.

The key area concept does not apply well to all species. It is ideal for species that use key areas seasonally each year, such as thinhorn sheep. Mapping key areas for species such as grizzly bear is much more difficult, because they have large home ranges and/or do not use habitat in an easily defined way (e.g., grizzly bear). For other predatory species, such as lynx, coyote, and wolverine, key area has yet to be defined. It may be possible in the future to identify their key areas by locating places abundant with their prey.

2.3 Why Identify Key Areas?

Wildlife populations can use a significant amount of habitat other than WKAs, but it is not possible to prevent all activities that impact the land and wildlife. The WKA Inventory serves to focus mitigation/protection efforts to those areas that are limited in availability, most valuable to the species/population, and/or where wildlife is most vulnerable. With the help of land managers and wildlife & habitat biologists, developers can plan their activities to avoid key areas altogether or during periods of critical use.

The WKA inventory is currently used in the Land Use Application Review process by Yukon Environmental & Socio-economic Assessment Board (YESAB). Depending on the land use activity, specific recommendations are made to maintain key areas and reduce impacts. The land use guidelines developed for key areas tell land users when, where, and under what conditions land use activities should occur. In addition, the Land Use Application Review process through YESSA(Act) is improved, because land use proponents that obtain key area information can tailor proposals to reduce conflicts and shorten review times.

The WKA Inventory is also useful for land use planning, which requires an inventory and assessment of multiple reaource interests. Land use planning usually involves determining the highest value of the land based on its capability and on the opinions and desires of local people.

2.4 How are Key Areas Identified and Mapped?

Key areas for most species are given a boundary primarily through assessing animal location during key seasons of use. Mapping the known locations of sheep in winter, for example, identifies their winter range. Definitions of WKA for a species/taxon group are discussed in more detail in section 3.

2.4.1 Data Source

Wildlife surveys are the primary source for delineating seasonal distribution and key areas. But other significant sources used to locate animals and their key areas include interviews with knowledgeable locals and biologists, published and unpublished literature and/or maps, and hunting and trapping statistics.

While survey data can provide accurate locations from which to interpret WKAs, it can often be limited in quantity, providing a narrow view of a population's use of the landscape. But as surveys are repeated from year to year, the ability to capture the full picture improves. Local knowledge or anecdotal information, while sometimes more general, can date further back in time giving a historic perspective and provide the bigger picture of what is actually happening on the land. Both data sources are complimentary and valuable to WKA interpretation.

2.4.2 Mapping Methods and Criteria

In the late 1980's and early 1990's WKA mapping was done primarily by free-hand drawing on paper maps and transcribing to mylar. This method was prone to user subjectivity. With the advent of GIS and database management systems, more systematic and robust mapping methods were devised. The improved ability to apply data queries, buffering techniques, and other GIS functionality removed much of the subjectivity.

Mapping methods and criteria varies between species or taxon group and/or populations. Possible criteria include relative distribution (e.g. proximity: excluding data outside a specified nearest-neighbor distance threshold), density (e.g. animals/unit area: beaver and muskrat),

sensitivity (e.g. ranking), rareity (e.g. threatened or endangered species: muskox and wood bison), and geographical (e.g. latitudinal: moose in North Yukon).

Generating key area polygons (i.e. mapping methods) from queried data often used buffer thresholds that depended on species or population characteristics. Methods have evolved recently to use home range analysis tools within GIS, and applying these on seasonal data sets.

Local knowledge, on the other hand, involves directly importing an interviewee's identified key areas as-is into the GIS system.

2.4.3 WKA Mapping Level

Recently integrated in this version of WKA is the concept of "Level". There are 3 Levels defined in the WKA Inventory and database. Level 1 include the specific locations used to delineate key areas. These data are not included in the WKA database, as they are usually captured as points from wildlife surveys and maintained by other databases. Level 2 data are key areas derived from Level 1 source data, and are the primary representation of key areas for management decisions. Level 3 key areas are a more generalized representation suitable for smaller scale mapping and broad-based management initiatives (e.g. State of the Environment reporting).

A species or taxon group may or may not have both Levels of data. Often Level 2 key areas are nested within Level 3 key areas, for a given taxon group or population (e.g. woodland caribou). For some species or taxon groups Level 3 key areas are the sole representation of key areas. For example, wood bison key areas are currently represented as Level 3 only until suitable Level 2 methods are defined and implemented. Some sensitive Level 2 key areas are withheld from public release, while the more general Level 3 interpretation that obscures the true location of the feature is available (e.g. mineral licks).

2.5 Limitations

When using WKA data it is easy to assume that all the key areas for a species within a region are identified. **But** in actuality **the data only include those areas we know about**. It is important to recognize these data gaps.

Much of the Yukon has not been surveyed intensively, or surveys that have been done were not at key times of year. Furthermore, surveys are but one source for delineating WKAs. First Nation and other people that travel on the land know a great deal about wildlife distribution, and most of this knowledge has not been captured in the WKA inventory.

It is also important to consider the scale when using the maps. Key Area polygons are compiled against 1:250,000 scale National Topographic Database (NTDB), Natural Resources Canada. It is not appropriate to re-map the areas on to a *larger* scale, that is, to transfer the areas from the 1:250,000 scale to 1:50,000 scale. This process results in increased accuracy of the boundaries that is not based on knowledge. On the other hand, there is no problem with reducing the precision of the lines by re-mapping at a smaller scale, but in some instances generalization of the polygons would be useful to reduce unnecessary detail.

Another important consideration is that the WKA Inventory does not include a detailed habitat suitability assessment of the land. Specific habitat features are not used to identify key areas, rather animal observations delineate the area. Only general knowledge about biophysical factors that influence habitat use patterns are used to "fine tune" key areas. For example, when sheep are located in winter it is known that they are using primarily south-facing, wind swept slopes that are clear of snow. Key area boundaries are refined based on inferences about the extent of near-by habitat being used by the observed sheep.

3 Wildlife Key Area Criteria

The critical, seasonal life functions for each species or taxon group were defined through extensive literature reviews and consultation with species biologists. The table below summarizes the key life cycle features defined for Yukon wildlife species and shows the map symbols used. The rationale for which seasonal life functions were considered key for each species or taxonomic group is described in the sections that follow.

3.1 Summary: Yukon Wildlife Key Areas

		Key Area Map Label Symbols		
Wildlife	**Key Area Type**	**Silhouette**	**Season**	**Function**
Moose	Late Winter Range		lw	R
	Summer Range (Old Crow Flats)		s	R
	Year-Round, All Functions(North Yukon)		y	A
Woodland Caribou	Winter Range		w	R
	Fall Rut		f	B
	Migration Corridor		sp, f	C
Barrenground Caribou	Winter Range		w	R
	Spring Calving		sp	X
	Summer Insect Relief		s	I
	Migration Corridor		sp, f	C
Thinhorn Sheep	Winter Range		w	R
	Spring Lambing		sp	X
	Early Winter Rut		ew	B
	Migration Corridor		sp, f, u	C
Mountain Goat	Year-Round, All Functions		y	A
Mule Deer	Winter Range		w	R
	Year-Round, All Functions		y	A
Elk	Year-Round, All Functions		y	A
Wood Bison	Year-Round, All Functions		y	A

Muskox	Winter Range Fall Rut		w f	R B
All the Above	Mineral Lick	no symbol	y, s, u	L
Grizzly Bear	Major Feeding Range		y (sp, s, f)	R
Black Bear	Major Feeding Range		y (sp, s, f)	R
Polar Bear	Denning Area		w	D
Wolf	Denning Site		sp, s	D
Fox	Denning Area		sp, s	D
Beaver	Year-Round, All Functions (high density area)		y	A
Muskrat	Year-Round, All Functions (high density area)		y	A
Waterfowl: Unspecified Ducks Geese Swans	Spring Staging Summer Nesting Summer Moulting Fall Staging		sp s s f	S X M S
Raptors: Alpine Riparian Other and unspecified	Summer Nesting		s	X
Sharp-tailed Grouse	Year-Round, All Functions		y	A

Shorebirds	Summer Nesting		s	X
	Summer Brood Rearing		s	Y
	Fall Staging		f	S
Seabirds	Summer Nesting		s	X
	Fall Staging		f	S
Larids	Summer Nesting		s	X
	Summer Brood Rearing		s	Y
	Fall Staging		f	S
Seals	Year-Round, All Functions		y	A
Beluga Whale	Migration Corridor		sp, f	C
Bowhead Whale	Summer Range		s	R
	Fall Range		f	R

3.1.1 Season codes

w winter (October - April)
ew early winter (October - January)
lw late winter (February - April)
sp spring (April - June)
s summer (June - August)
f fall (August - October)
y year round
u unknown

3.1.2 Function codes

R range (i.e. feeding area)
B breed (e.g. rutting area, courting area)
X reproduction (e.g. lambing area, nesting area)
D den
I insect relief
S stage (i.e., migratory stop-over area)
M moult
Y rear young
C migration corridor
A all functions
L mineral lick

3.2 Species and Taxonomic Group Criteria

3.2.1 Moose

Winter can be a stressful season for many species, including moose. Moose are affected primarily by the difficulties in travelling through deep snow and having to dig through snow to reach the shrubs on which they feed. Because snow gets deeper over the winter, the critical period when moose must move to special habitats is late winter. For much of the Yukon, **key late winter range** is considered to be areas where moose gather between January and April that have relatively shallow snow depths and abundant browse.

River valleys are typical of late winter habitats. The bands of shrubs and poplar near the river provide browse for the moose. Adjacent upland mature spruce forests have a dense canopy that intercepts a significant amount of snow fall that would otherwise accumulate on the ground, so moose use these stands as travel corridors and for cover. Moose that inhabit mountainous areas are particularly likely to move to and from late winter ranges. Here, moose descend from sub-alpine shrub communities to mixed spruce-shrub forests found in valley bottoms and/or river valley floodplains.

In many areas of the Yukon the average annual snowfall is not deep enough to cause moose to move to special late winter ranges. In years of low snow depth disturbed sites such as burns or logged areas and stands of tall shrubs are heavily utilized. Late winter range is key only during years of significant snowfall (i.e. greater than 70 cm). But even though this may happen only once every ten years in some regions of the Yukon, identifying and protecting late winter ranges is necessary to provide moose with safe areas to weather these difficult times.

Moose key area is defined differently for the northern Yukon. Here, **year-round range** is considered key for moose, because suitable habitat is limited. In a landscape dominated by tussock tundra and where forested areas are scarce, moose are found primarily in shrub habitats throughout the year. This habitat type is mainly limited to narrow bands along rivers, streams and gullies, and represents only about 5% of the North Slope landscape.

Relatively high concentrations of moose are known to use Old Crow Flats in summer. Characteristic of this transitional, forest-tundra wetland are white spruce/tall willow communities that line major drainages, and extensive upland shrub & wet meadows. Moose are attracted to the shallow lakes and ponds that have abundant aquatic vegetation. Moose migrate into the wetlands from the southeast Brooks Range in Alaska starting late March and move out of the flats in late August. This population, shared between Canada/U.S., has one of the largest recorded migratory distances for moose in AK and NW Canada (mean max dist 123km).

The traditional use of calving sites by adult cows may be quite important. For example, some islands seem to be heavily used for calving by moose. Since these sites are not usually identified during moose surveys, we will depend on local knowledge for information on key **calving sites**. These will be mapped as they are obtained.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Late Winter Range		lw	R
Summer Range (Old Crow Flats)		s	R
Year-Round Range (North Yukon)		y	A

3.2.2 Woodland Caribou

Winter range, migration corridors, and rutting areas have been identified as key for woodland caribou. These habitat types are all used traditionally. Calving areas are also used consistently, but are not considered key because cows bearing young are solitary and widely dispersed. However, there is increasing evidence that **post-calving range** may be key for at least some woodland caribou herds, as cows and their calves appear to congregate in areas of high quality forage. These will be mapped where the information is available.

During the fall rut, woodland caribou aggregate in traditional areas for about one month. These areas are typically located at higher elevations in open, alpine/sub-alpine communities.

As winter progresses, woodland caribou become particularly vulnerable. Cold temperatures are not a problem for caribou, but deep, hard packed snow interferes with feeding, makes travelling difficult, and under certain conditions can inhibit escape from predators. Snow conditions become more unfavourable for woodland caribou as winter progresses. In response, they move along traditional routes or migration corridors to forests and, in moderate winters, subalpine shrub areas where snow conditions are less severe and where lichens, their primary food, are more readily available.

It is the discrete use of winter ranges that have enabled biologists to recognize 23 distinct woodland caribou herds. Together these herds occupy nearly all of the south and central Yukon.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Winter Range		w	R
Fall Rut		f	B
Migration Corridor		sp, f	C

3.2.3 Barren-ground Caribou

Key areas for barrenground caribou include **calving grounds, post-calving range, and insect relief areas**. These definitions are based on work done on the Porcupine Caribou Herd. There are two major barrenground caribou herds in the Yukon.

The Porcupine Caribou Herd is the largest and ranges over most of the northern Yukon and into Alaska. The Fortymile Herd is much smaller and due to past severe overhunting now occurs mainly in Alaska, although it used to occupy the entire southwest Yukon. If herd growth continues it is expected to soon re-occupy its former Yukon range west of Dawson. Key area definitions may change when this occurs.

Calving grounds and post-calving range occur where there is abundant high quality forage and the onslaught of insects is delayed.

Insect harassment in the summer (primarily by mosquitoes) can have a significant impact on barrenground caribou in the northern Yukon. In response to harassment herds will seek windy areas, such as coastal and mountainous regions, or snow patches.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function

Winter Range		w	R
Spring Calving		sp	X
Summer Insect Relief		s	I
Migration Corridor		sp, f	C

3.2.4 Thinhorn Sheep

Dall (white) and Stone (dark) sheep are two subspecies of thinhorn sheep found in the Yukon. Fannin sheep, a unique colour-phase of Dall sheep , is also found in the territory. Thinhorn sheep are very traditional users of **winter ranges, lambing areas, rutting grounds, and migration corridors**. All these habitats are key because they are used traditionally, and are limited in extent.

Generally, winter ranges are found on steep, south-facing slopes where strong winds and sunshine prevent snow accumulation. In early winter sheep are not significantly restricted by snow because it is usually soft enough to allow movements and cratering. As winter progresses the snow becomes wind-packed, and sheep are confined and concentrated into smaller snow-free, wind-blown areas where forage is available.

Lambing, which occurs between May and early June, is a key time of year for ewes and lambs. During lambing, they are vulnerable to predation, primarily by wolves, coyotes, grizzly bears, and golden eagles. To avoid predators ewes will give birth on steep cliff faces. These areas are used traditionally for lambing but may also be used as predator escape terrain during other seasons.

Small groups of sheep use rutting, or mating, grounds in early winter. The locations and physical characteristics of rutting grounds are not well known, but the behaviour itself is more significant than the location. Preventing the disturbance of these rutting groups is important to ensure successful reproduction. More research is required to better define the physical attributes of rutting grounds.

Sheep travel along well-worn migration routes to access summer and winter ranges, mineral licks, and other key habitats. If there is a significant disturbance along these migration trails or they are destroyed, sheep populations could be prevented from reaching important areas within their total range.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Winter Range		w	R
Spring Lambing		sp	X
Early Winter Rut		ew	B
Migration Corridor		sp, f, u	C

3.2.5 Mountain Goat

Year-round, all functions has been identified as key for mountain goats, because goats and their habitat are uncommon and not well studied in the Yukon. Sites for all important life functions, such as winter range, kidding areas, and rutting grounds are included within key area boundaries. Mountain goats prefer high elevations on steep slopes with escape, or cliff, terrain nearby. Winter range is predominantly located on south-facing slopes and cliffs, and on high ridge areas where sun and wind limit snow accumulation. Kidding occurs on rugged, steep

terrain.

The central Yukon is the northern-most location of the North American mountain goat. Their distribution in the Yukon is not extensive, primarily because of habitat limitations. Mountain goats are found in rugged, mountainous regions most often associated with intrusive and metamorphic bedrock groups; these rock types provide more stable footing than sedimentary rock. They also prefer areas with substantial precipitation, such as found in the St. Elias Mountains and Yukon-Stikine Highlands ecoregions.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Year-Round, All Functions		y	A

3.2.6 Mule Deer

Year-round, all functions for mule deer is considered to be key, because mule deer occur in low numbers and are designated as "specially protected wildlife" under the *Yukon Wildlife Act*. Some **winter ranges** have also been identified. In the Yukon, mule deer are commonly found in burn areas and on exposed, south facing slopes. They prefer relatively dry sites, in which there is a diversity of habitat types such as grasslands, aspen stands, and white spruce or pine stands. Mule deer populations are limited by the availability of forage, water, and cover, particularly during the winter.

Key areas were mapped mainly from reported sightings. Burn areas were also mapped as key mule deer habitat when deer observations within these areas were common. The definition of what areas are key for mule deer in the Yukon could change if and when intensive studies to identify deer population status and seasonal habitat use are completed.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Winter Range		w	R
Year-Round Range		y	A

3.2.7 Elk

Year-round, all functions is identified as key for elk because of their low numbers and because the species is designated as "specially protected wildlife" under the *Yukon Wildlife Act*. Elk, not being indigenous to the Yukon, were introduced in 1951 and 1954 by Yukon Department of Renewable Resources and Yukon Fish and Game Association.

Elk live in two small but distinct herds, one in the Takhini River valley and the second in Hutshi Lake/Nordenskiold valley. The herd's core range (i.e. where 90% of the elk sightings occur) was used to define year-round distribution. The core range includes habitats that support important life functions, such as calving grounds, rutting areas, and winter ranges.

Elk prefer habitats that have immature forests interspersed with grasslands, meadows, or open, south-facing slopes. This mosaic of habitat types provides a large amount of edge habitat where the quantity and diversity of forage is greatest. Elk frequent exposed south-facing slopes in winter, where snow accumulation is low and amounts of forage and nutrient levels are relatively

high. South-facing slopes are critical to elk in the spring, since early green-up provides the first source of high quality forage. Elk use forested habitats for shelter throughout the year.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Year-Round, All Functions		y	A

3.2.8 Wood Bison

Year-round, all functions is mapped as key for wood bison, because this species is declared as "specially protected wildlife" under the *Yukon Wildlife Act* and only occurs in low numbers. Wood bison were extirpated from many parts of their range and disappeared from the Yukon 800 - 1000 years ago. In 1975 a Canadian Wood Bison Recovery Program involving federal, provincial, and territorial governments was initiated with the objective of re-establishing free roaming herds of wood bison. This program came to the Yukon in 1980.

The initial phase of the project was to determine habitat potential for wood bison in the Yukon. The Nisling River valley was selected as the most favourable area for bison relocation. In March 1986 wood bison from Elk Island National Park were brought to the Nisling River valley and placed in a corral. Two years later most of these bison were released into the wild. Since that time more bison were brought in and released, and a herd is now becoming well established in the Nisling River valley and the Aishihik Lake area.

Key area mapping for the herd is based primarily on relocation and census surveys. The mapped key areas of the bison herd will likely change as more data becomes available. Also, the distribution of the bison may continue to change, as it is still a relatively young and unsettled population. In future, methodology will be applied to map bison seasonal distribution.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Year-Round, All Functions		y	A

3.2.9 Muskox

Winter range and **fall rut** is mapped as key for muskox, based on reported sightings, surveys and satellite collar relocations. In winter they frequently use areas with shallow snow cover, such as ridges, hillsides, and uplands. In the growing season muskox prefer riparian areas with an abundance of willows, their primary food. In Yukon most observations of muskox are made on the coastal plain and along major river drainages of the North Yukon. Muskox have only recently occupied the North Slope.

Muskox are believed to have inhabited the Arctic coasts of Alaska and the Yukon before being extirpated from these areas in the mid-1800's. In an attempt to reintroduce this species in Alaska, 51 muskoxen were released on Barter Island in 1969, 120 km northwest of the Yukon border. In 1985 the population had increased to 476 animals. Breeding populations are becoming established, and continued expansion of muskox herd size and range can be expected on the Yukon's North Slope.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Winter Range		w	R
Fall Rut		f	B

3.2.10 Mineral Licks

All Yukon ungulates (moose, caribou, sheep, goats, deer, elk, bison, and muskox) as well as some other animals use mineral licks. Mineral licks, which are scattered throughout the Yukon, provide animals with essential minerals such as sodium, magnesium and trace elements. Different animals use different types of mineral licks. For example, sheep and goats usually use dry earth exposures, whereas moose and caribou generally prefer wet muck licks and mineral springs.

Mineral licks appear to have a profound effect on ungulate distribution and movement patterns. Sheep, for example, have been known to travel many kilometres to visit mineral licks seasonally. There have been no specific biological surveys for mineral licks in the Yukon; rather, mapping sources included scientific studies, incidental observations during wildlife surveys, observations by knowledgeable locals, and outfitter questionnaires.

Given the fixed location of mineral licks and traditional, seasonal use, animals using them can be vulnerable to harvesting. So the exact location of mineral licks is concealed within a Level 3 representation. More detailed Level 2 data are referred to confidentially by managers to mitigate the impact of land use activities at these important sites.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Mineral Lick	no symbol	y, s, u	L

3.2.11 Grizzly Bear

Key areas for grizzly bears may be mapped as **spring, summer**, or **fall range** or as **year-round range**, because of lack of information on season of use. It includes areas where they concentrate seasonally, such as natural feeding areas and movement corridors. Grizzly bears are known to feed in the same berry areas each year. They also concentrate seasonally along major salmon spawning rivers. The key area maps identify only a few areas of grizzly bear concentration; more study is required to complete this mapping.

Grizzly bear key areas tend to be difficult to locate, because bears exist at relatively low densities, are most often solitary, and make long movements in search of food. Any area with large tracts of wilderness can be expected to harbour bears. But some areas within these large tracts have seasonally higher concentrations or have particularly high value to bears.

Denning sites do not limit grizzly bear populations, even in the north Yukon, where grizzly bears move south of the coastal plain to den in the more favourable mountains.

Identifying grizzly bear key areas has land use implications. Conflicts between bears and people are more likely when land use activities occur on or adjacent to key areas. Stringent land use guidelines are required to prevent conflicts.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Major Feeding Range		y (sp, s, f)	R

3.2.12 Black Bear

Seasonally concentrated feeding areas constitute black bear key areas. These include **spring**, **summer**, and **fall ranges**. The various plant foods on which black bears depend become available in different habitats at different times of year. Concentrations of black bears in the spring usually occur in sagewort/bearberry/grassland habitat, which is located on open, south-facing hillsides, commonly on the edge of deciduous forests. In the summer and fall they use productive berry areas. Black bear key areas remain unknown for much of the Yukon, particularly for summer and fall ranges. Black bears den from October to late April or early May.

Black bears occupy many habitat types, given their diverse diet and large home ranges. The diet of the black bear is just as variable as that of the grizzly bear. Black bears are mainly herbivorous, consuming grasses, berries, and emergent forbs. They will, given the opportunity, eat meat in the form of scavenged carrion or prey. Black bears are usually excluded by grizzly bears from salmon spawning rivers and streams.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Major Feeding Range		y (sp, s, f)	R

3.2.13 Polar Bear

Denning is not mandatory for polar bears, unlike for grizzly and black bears. Only pregnant polar bear sows move to dens in October and November, where they remain until the spring. These **winter** maternal **denning** areas are mapped as key. Most polar bear denning occurs on the pack ice of the Beaufort Sea, and a significantly lesser number of dens are found on the mainland. Polar bears are known to den on Herschel Island and the coastline of northern Yukon.

Polar bear distribution throughout the year is closely related to the location of multi-year pack ice. In the summer most polar bears remain on the drifting pack ice. But when the summer winds blow the ice south to the mainland, the polar bears will often “jump ship”. One attraction of the mainland to polar bears is the carrion of beached whales and seals.

Polar bears along the Yukon coastline are part of a much larger population of about 2,000 bears that range across the coasts of Alaska and the NWT. Movement of individuals within the population’s range can be substantial.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function

Denning Area		w	D

3.2.14 Wolf

Wolf maternal **den sites** used in **spring** and **summer** are mapped as key, but only in the northern Yukon. Here, areas suitable for denning are limited by the presence of permafrost. In the few areas where dens are constructed, permafrost action can cause them to cave in. Those left intact can be used each year (May - August) by the same mating pairs. The known maternal den sites are all located near rivers or creeks. Dens must be protected from destructive land use activities year-round.

Habitat use by wolves is dependent on the location and distribution of their primary prey species; wolf prey varies between regions of the Yukon. Wolf packs that rely heavily on sheep or barrenground caribou commonly occupy alpine or tundra areas and those that hunt moose or woodland caribou are typically found in subalpine and forested regions. Many different habitat types are used to some degree, because wolves have large home ranges.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Denning Site		sp, s	D

3.2.15 Fox

The maternal **spring** and **summer den sites** of both the arctic and red fox are defined as key in the north Yukon only. As with wolf dens, suitable areas for fox den construction are limited by permafrost. Most of the dens on the coastal plain are found in sandy soil along streamside cutbanks and occasional dunes. On Herschel Island dens were often found on the mounds formed by coastal erosion and permafrost melt. Dens are occupied from late spring through the summer, but they require year round protection since they are often reused each year.

The Arctic fox population in the Yukon is very small, probably less than 100 animals. Their breeding distribution is confined to Herschel Island and the Yukon's coastal plain. Herschel Island has the highest concentration of arctic fox maternal dens in the north Yukon, whereas the coastal plain west of the Babbage River has a much lower density. No arctic fox dens are located east of the Babbage and Old Crow Rivers. In winter arctic fox range widely in search of food, often moving onto the ice pack.

The red fox is an adaptable and opportunistic predator. In North America red fox occupy climates ranging from low arctic to sub-tropical, and they are adapted to rural and urban settlements as well as wilderness. They are distributed throughout most of the Yukon, including the tundra of the north Yukon. There are fewer red fox maternal dens in the Yukon's coastal plain and Herschel Island, relative to the arctic fox. In winter these red fox are suspected to move south of the coastal plain.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function

Denning Area		sp, s	D

3.2.16 Beaver

Year-round, all functions in high quality habitats defines key areas for beaver, because they do not use habitats seasonally. Beaver colony density is used as a measure of habitat quality. Food cache counts are used as an estimate of colony density, and thus whether or not the area is considered key. Key areas for beaver was defined as water bodies or drainage systems with less than or equal to 2.0 kilometres per active colony (excellent habitat) or 2.1 to 3.0 kilometres per active colony (good habitat). As these areas are depleted of forage, beavers will search for more favourable habitat. Similarly, key area locations will also shift with the beavers.

The best long-term habitat for beavers are areas with numerous wetlands and abundant forage. The beaver needs fresh water habitats where the water is at a relatively stable level, is sufficiently deep to prevent freezing to the bottom, and is still or slow flowing. Beaver habitats must also have an abundance of food, such as aspen (which is preferred), willow, balsam poplar, birch, and/or other deciduous trees.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Year-Round, All Functions (high density area)		y	A

3.2.17 Muskrat

Key areas for muskrats are defined as **year-round, all functions** with high quality habitat. Muskrats do not use habitats seasonally, although suitable muskrat habitat is more restricted in winter than summer. Therefore, muskrat density measured in winter is used as an indicator of habitat quality.

Locating muskrat “pushups” can be used as an index of animal density. Pushups are breathing holes that muskrats construct by chewing through the ice and piling vegetation around the hole. These holes allow the animals to extend their feeding ranges while remaining under the ice. Pushups become evident landmarks in late winter and are counted during population surveys.

Specific criteria based on pushup densities and whether the habitat is isolated or continuous are used to further define these areas. Known muskrat locations are key if (i) there is a moderate pushup density (1 - 5 per square kilometre) and the wetlands are continuous, or (ii) there is a high pushup density (greater than or equal to 5 per square kilometre) and the wetlands are either isolated or continuous. Isolated wetlands with pushup densities of less than 5 per square kilometre are not considered to be key.

Muskrat require permanent water bodies that remain at a relatively stable level, are still or slow flowing, have an adequate amount of submergent or emergent vegetation (food source), and are bordered by herbaceous vegetation in the uplands. In the Yukon, still water bodies must be sufficiently deep (greater than 1.5 metres), so as not to freeze to the bottom in winter, yet must not exceed a depth of 3 to 4 meters allowing for growth of aquatic plants. Muskrat occupy marshes, ponds, potholes, shallow lakes, and slow-moving rivers and streams.

In the southern Yukon, the best muskrat habitat is in the perched basins and oxbow sloughs associated with river floodplains. In the northern Yukon, high quality habitat is found in the lakes and ponds of the Old Crow Flats.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Year-Round, All Functions (high density area)		y	A

3.2.18 Waterfowl

Waterfowl includes species of ducks, geese, and swans. Key areas for waterfowl include wetlands used for **spring** and **fall staging**, and **summer nesting** and **moulting**. Spring staging areas are lake outlets or portions of rivers that become free of ice early in spring. Waterfowl aggregate on these areas to feed and wait for other wetlands to become ice-free. In the summer, concentrations of small ponds (wetland complexes) or large, extensive marshes generally contain the highest densities of breeding ducks. Larger water bodies with available food are commonly used for moulting. Through the summer, waterfowl, particularly the young of the year, must build enough body reserves for the long flight south in the fall. Flocks of waterfowl use fall staging areas to rest and feed prior to and during this migration. Both large lakes and wetland complexes may be used for fall staging.

On a National and International scale, regions of the Yukon are important primarily as spring and fall migration corridors for waterfowl. These birds are generally going to and from major summer ranges in Alaska and the Yukon North Slope. The major migration corridors, or flyways, in the Yukon are the Shakwak Trench and the Tintina Trench. Despite this general movement through the Yukon, many habitats are important to waterfowl populations.

The Yukon Waterfowl Technical Committee has rated wetland significance to waterfowl based on the numbers of birds using the area and the predicted impact on the waterfowl population if the wetland were lost. For example, M'Clintock Bay on Marsh Lake is used by thousands of ducks and swans in spring and there are no alternative sites which could replace it. Habitats such as M'Clintock are considered important to the waterfowl populations as a whole, and are mapped as key.

Key Area Map Label Symbols

Waterfowl	Key Area Type	Silhouette	Season	Function
Unspecified	Spring Staging		sp	S
	Summer Nesting		s	X
Ducks	Summer Moulting		s	M
	Fall Staging		f	S
Geese				
Swans				

3.2.19 Raptors

Raptors, or birds of prey, include hawks, falcons, harriers, eagles, owls, and ospreys. In the Yukon Gyrfalcon, Peregrine Falcon, Golden Eagle, Bald Eagle, Osprey, Merlin, and Rough-leggd Hawk are given management priority, because of their high vulnerability to disturbance. **Summer nesting areas** are mapped as key in the Yukon. Nest sites are used from March to August, although the exact nesting period varies depending on the species and nesting latitude.

Gyrfalcon and Golden Eagle dwell in the alpine whereas Peregrine Falcons, Bald Eagles, Osprey, and Rough-legged Hawk live near water (riparian habitats). Merlin can be found nesting in forested habitats. Raptor species generally have special requirements for nest sites. Bald Eagles, for example, commonly nest in large trees on or near the shores of lakes or rivers; these sites are limited in the Yukon. The falcons, Golden Eagle, and Rough-legged Hawk usually nest on cliffs. Alpine and riparian raptors also tend to use the same nest site every year, so disturbing these species' nests would be more detrimental than for bird species which find or build new nests every year.

Most managers agree that disturbances within two kilometres of raptor nest sites can damage breeding success. The key areas mapped for alpine and riparian raptors include at least a two-kilometre buffer zone. The exact locations of raptor nest sites are kept confidential to protect these birds from illegal activities, but like mineral licks, specific locations are used confidentially by managers for mitigative prescription.

Most raptors migrate south every year, but many Gyrfalcon remain in the Yukon all year, particularly when their primary winter prey (ptarmigan) are abundant. Seasonal and annual fluctuations in raptor numbers are related to the availability of their food resources. The continued survival of raptors is dependent upon the status of their prey and the quality of their habitat.

		Key Area Map Label Symbols		
Raptors	**Key Area Type**	**Silhouette**	**Season**	**Function**
Alpine	Summer Nesting		s	X
Riparian				
Other or unspecified				

3.2.20 Sharp-Tailed Grouse

Year-round, all functions are mapped as key for Sharp-tailed Grouse. Of the several species of grouse in the Yukon, only the Sharp-tailed Grouse is of immediate management concern. Sharp-tailed Grouse have a limited distribution in the Yukon, which in addition to their unique habitat requirements, restricted movements, and intense social behaviour makes them particularly vulnerable to disturbance. Only small pockets of suitable habitat for Sharp-tailed Grouse occur in the Yukon. Some of these areas that have in the past supported populations of this species, now have none or only remnant populations.

Sharp-tailed Grouse habitat includes leks, or communal courting grounds, which form the centre of social activity throughout the year for a population. Lekking areas generally have small mounds elevated from the surrounding terrain and have little shrub or tree cover. Sharp-tailed Grouse habitat has been characterized as having a "parkland structure", which are open areas with low ground cover dispersed in shrub or treed groves. In the Yukon gravel outwashes with

fairly stable aspen parkland habitat and wet sedge-hummock meadows after fire are considered suitable habitats for Sharp-tailed Grouse.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Year-Round, All Functions		y	A

3.2.21 Shorebirds

Key areas for shorebirds include **summer nesting** and **brood rearing** areas and **fall staging** areas. These sites have only been identified along the north Yukon coast, where large numbers are known to nest in the summer and stage in the fall. During the peak fall migration in August shorebirds move eastward along the coast before heading south. Some areas along the coast are used specifically for fall staging, such as the Babbage River Delta. Nesting and brood rearing often occur in the same areas, but sometimes broods are moved to different areas that have abundant food.

Sixteen species of shorebirds have been shown to breed on the coast of the Alaska National Wildlife Refuge (ANWR), and it is likely that these species also use the Yukon's coastal plain. The more abundant species include the Red-Necked Phalarope, Semipalmated Sandpiper, Lesser Golden Plover, and Pectoral Sandpiper. Overall phalaropes are the most common shorebird species.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Summer Nesting		s	X
Summer Brood Rearing		s	Y
Fall Staging		f	S

3.2.22 Seabirds

For species of seabirds, which includes guillemots, cormorants, and fulmars, **summer nesting** and **brood rearing** areas are defined as key. Seabirds tend to nest in colonies, making these sites extremely important for the survival of the populations.

The only seabird for which key area is mapped is the Black Guillemot. The town site at Pauline Cove on Herschel Island is the only significant nesting area for Black Guillemots in the Beaufort Sea region. Rather than their usual nesting habitat of cliffs and talus slopes, they use old buildings and driftwood piles at the Herschel town site, making the birds and their key area unique and unusual among Yukon's wildlife.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function

Summer Nesting		s	X
Fall Staging		f	S

3.2.23 Larids

Larids include species of gulls, jaegers, and terns. Key for these birds are concentrated **summer nesting** and **brood rearing** areas and **fall staging** areas. Key areas for larids are mainly mapped in the north Yukon. The Glaucous Gull is the most abundant gull species that breeds in the north Yukon. These gulls primarily nest in colonies on barrier islands or on islands in fresh water lakes. The largest colony is at Escape Reef. Individual glaucous gull nests are found throughout the ponds of the coastal plain, but are not mapped as key. Less common breeding gulls on the Yukon coastal plain includes Thayer's, Sabine's, and Bonaparte's gulls.

Arctic Tern are also known to nest in colonies on the barrier islands east of Nunaluk Spit, but most terns are believed to nest on inland waters. The Parasitic and Long-tailed Jaegers both commonly breed on the Yukon coastal plain, but the Pomarine Jaeger rarely does. Key areas have not yet been identified for these birds.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Summer Nesting		s	X
Summer Brood Rearing		s	Y
Fall Staging		f	S

3.2.24 Seal

Two species of seal are found in the waters off the Yukon coastline, the more common ringed seal and the less abundant bearded seal. **Year-round range, all functions** is mapped as key, because their habitat is the interface between ice and water and is not predictable within narrow boundaries in time or space. Both species are found in the eastern Beaufort Sea, including Yukon coastal waters, year round. Some of the largest concentrations of ringed seals in the Beaufort Sea have been recorded along the Yukon coast.

In winter and spring, ringed seals are found within the shorefast ice around breathing holes. They also use areas with pressure ridges and accumulated snow to construct birthing lairs. The lairs, which are used to protect pups from predators and the cold, are built above breathing holes and can be complex structures. During the ringed seals annual moult from late May to mid-June, individuals will haul out on shorefast ice near open leads. During summer and fall many of these seals are found at the edge of the pack ice, but some remain in deeper lagoons near shore.

The bearded seal represents only 10% of the seal population in the Beaufort Sea. This species prefers shallow water zones in areas of moving ice. They tend to follow the leading edge of pack ice as it moves north in the spring and south in the fall. Bearded seals do not construct lairs, and they are not found in shorefast ice until it breaks up in June. During this period these seals also moult.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Year-Round, All Functions		y	A

3.2.25 Beluga Whale

Spring and **fall migration corridors** between summer and winter ranges is mapped as key for beluga, or white, whales. The Western Arctic population of beluga whales winter in the Bering Sea and then migrate in large numbers to their summer ranges in the estuarine waters of the Mackenzie, Kugmallit, and Liverpool Bays. As many as 7,000 beluga whales are believed to use these summer ranges. The western boundary of the Mackenzie estuary extends along the Yukon coast to Shingle point, but only a few beluga use this area for feeding.

Migration to summer ranges occurs during ice break-up in the spring and early summer along open leads in the shorefast ice. During the fall migration back to the Bering Sea most beluga are believed to travel in the offshore waters far from the Yukon coast. But small groups of beluga whales are known to use the coastal waters to feed while migrating. Occasionally large groups can be seen in the fall off the Yukon coast. For example, the migration of 2,000 beluga was seen north of Herschel Island in September 1972.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function
Migration Corridor		sp, f	C

3.2.26 Bowhead Whale

Summer and **fall ranges** are mapped as key for bowhead whales. The Western Arctic population of bowhead whale, like the beluga, also winters in the Bering Sea. This population, which numbers about 7,200 whales, migrates each spring to its summer range in the Beaufort Sea. The spring migration of bowhead whales follows the ice leads in the shorefast ice. Significant concentrations of bowhead whales are known to feed along the north Yukon coastline and in the offshore waters in early summer and fall. Here, oceanic conditions are such that the waters are rich in zooplankton.

Past exploitation of the bowhead whale from commercial whaling lead to its current designation as an endangered species by COSEWIC (Committee on the Status of Endangered Species in Canada) and as “protected stock”, which means no commercial harvesting, by the International Whaling Commission (IWC). Commercial whaling was banned by the IWC in 1947. Subsistence hunting of bowhead whale by native people is permitted on a quota basis and resulted in 20 whales being taken between 1973 and 1990, all by Alaskans. The people of Aklavik took one whale in 1991, their first after about 50 years of no harvest, and are eager to re-establish whale hunting as part of their culture.

Key Area Map Label Symbols

Key Area Type	Silhouette	Season	Function

Summer Range		s	R
Fall Range		f	R

4 Widlife Key Area Inventory Products

The following is a list of some of the products based on the Widlife Key Area Inventory.

Available to anyone:

1. The Wildlife Key Area website: http://environmentyukon.gov.yk.ca/wka.
2. This *Yukon Wildlife Key Area Inventory User Manual*. Available from the WKA website.
3. Standard Wildlife Key Area map set by 1:250,000 National Topographic Series (NTS). Printed copies are available on request from the Department of Environment. Digital PDF copies are available for download from the WKA website.
4. A shapefile and dBase file version of the data. Available for download from the WKA website.
5. An ESRI file-geodatabase version of the data, including layer files for use with ArcGIS. Available for download from the WKA website.
6. A true-type font of the animal silhouettes in this document.

Available to Yukon Government staff and some others:

7. One layer and a supporting table in the Corporate Spatial Data warehouse. Also includes layer files for use with ArcGIS.

Available to Department of Environment staff:

8. One layer and a supporting table in Version 4 of the Departmental Spatial Data Repository. Also includes layer files for use with ArcGIS. The shapefile and file geodatabase versions above, and the 1:250,000 maps, are derived from this data set.
9. The **Wildlife Key Area Application**, which is a collection of MS-Access databases and an ArcView 3 extension for querying, viewing, and reporting information from the Wildlife Key Area Inventory. This application will not be supported beyond the May 2009 release of the Wildlife Key Area Inventory.

All of the above versions of the Inventory are derived from the same master copy of the Inventory maintained by the Department of Environment. The data are the same in all of the above versions.

5 The Wildlife Key Area Inventory User Agreement

This agreement applies to all paper, digital, or other types of products created by the Government of Yukon as part of the Wildlife Key Area Inventory (the WKA Inventory), including but not limited to printed or digital maps, printed or digital reports or documentation, copies of the data in any format (e.g., databases, shapefiles, dBase files), metadata, and any software applications developed by the Department of Environment to facilitate the use of the WKA Inventory.

The WKA Inventory is produced by the Habitat Programs Section (the Owner), Fish and Wildlife Branch, Department of Environment, Government of Yukon. All components and products of the WKA Inventory are copyrighted: 1996-2009 © the Government of Yukon.

In this agreement, primary user refers to the person or representative of an agency that requests and is granted a licence to use or downloads any of the WKA Products; secondary user refers to a person who is employed by a primary user and who uses WKA Products.

In this agreement, I, me, my refer to both primary and secondary users unless stated otherwise.

The terms of this agreement apply to both primary and secondary users.

User Declaration:

I, a primary user, understand that this agreement applies to me and extends to all of my secondary users, and that I must ensure that all of my secondary users understand and endorse this licence agreement.

I, a user of the WKA Products, may reference the Wildlife Key Area data in reports, use the data to create maps, and use the data for analyses with other data. I agree, however, to get written approval from the Owner for the representation of Key Area data in any publication or product intended for any public distribution or display. I acknowledge that I may be required by the Owner to alter or abandon my representation of Key Area data if in their opinion my representation constitutes a misinterpretation, misrepresentation, or inappropriate use of the Key Area data. I agree to comply with the wishes of the Owner in this respect.

Reports or other documents written by me that refer to or include data from the Wildlife Key Area Inventory will include the following citation (or a similar citation satisfying the intent of this citation):

> *Yukon Department of Environment. <version date>. Yukon Wildlife Key Area Inventory. Digital database and software produced by Habitat Programs Section, Fish and Wildlife Branch, Department of Environment, Government of Yukon, Whitehorse.*

Maps or other visual representations created by me that display Wildlife Key Area data will include the following statement.

> *Wildlife Key Areas (WKA) are compiled by the Yukon Department of Environment WKA Inventory Program (<version date>), against 1:250,000 NTDB from various data sources. Key Areas are based on observed locations of wildlife at key times of year, not on habitat assessment. With new information, boundaries and designations of Key Areas can change and additional Key Areas can be identified. Furthermore, Key Areas are not the only sites important for wildlife. Other information sources can identify other sites important for wildlife for reasons outside the scope of the WKA Inventory Program. Updates to Key Areas occur only periodically. For the most current information, please consult with the Regional Biologist for your area of interest. If you have questions or would like to contribute to the WKA database, please contact the WKA Inventory*

Program (wka@gov.yk.ca).

I will not distribute any of the WKA Products outside of my organization.

I will not alter any of the WKA data without written approval from the Owner.

I will not develop or deploy or have developed or deployed an internet mapping or other application that uses any of the WKA Products without written approval from the Owner.

I understand that the WKA Products are provided as is. I agree to use the WKA Products only at my own risk. I will not hold either the Owner or the Government of Yukon in general in any way responsible for any loss of data or damage to computer hardware or networks or any other problems that might result from my use of the WKA Products.

I understand that neither the Owner nor the Government of Yukon in general provides any technical support for the WKA Products.

I understand, however, that the Owner welcomes questions and comments about the contents of the Wildlife Key Area database, and that I am welcome to contact and discuss the data with the Owner.

I will not willingly misrepresent the Wildlife Key Area data. I will read the documentation provided with the WKA Products.

I understand that the Wildlife Key Area project is ongoing; that new Key Areas might be identified while existing Key Areas might be modified (altered in size, combined with other Key Areas, or deleted because they are no longer considered key); that updates are made periodically; and that the onus is on me to ensure that I am using the most current version of the Wildlife Key Area data. The Owner may notify me when updates are available.

I also understand that although every effort has been made to ensure the correctness of the data in the Yukon Wildlife Key Area database, there still might be errors. I agree that neither the Owner nor the Government of Yukon in general is responsible for any problems arising from errors in the data. I understand that I am encouraged to report errors in the data to the Owner.

6 More Information?

Anyone that has information that will assist the Wildlife Key Area Inventory Program is invited to share this knowledge. If you have information to give or if you have any questions about the program, please contact:

Habitat Inventory Coordinator
Phone: 867-667-5281
E-mail: wka@gov.yk.ca

Mailing Address:
Department of Environment V-5R
PO Box 2703
Whitehorse YT Y1A 2C6

7 Appendix

7.1 Wildlife Key Area True-Type Font

wkhanima.ttf

The WKA true-type font contains animal silhouettes that can be used to label Wildlife Key Area polygons. The table below indicates which keyboard character to use for each animal.

Wildlife	Silhouette	Character
Moose		d
Woodland Caribou		c
Barrenground Caribou		f
Thinhorn Sheep		b
Mountain Goat		a
Mule Deer		e
Elk		g
Wood Bison		i
Muskox		h
Grizzly Bear		x
Black Bear		A
Polar Bear		y
Wolf		m

Fox		o
Beaver		j
Muskrat		p
Waterfowl: Unspecified		N
		I
Ducks		L
Geese		C
Swans		
Raptors: Alpine		K
		D
Riparian		O
Other and unspecified		
Sharp-tailed Grouse		G
Shorebirds		F
Seabirds		E
Larids		M
Seals		u
Beluga Whale		S
Bowhead Whale		T

7.2 Wildlife Key Area Polygon Mapping and Projection

Wildlife Key Area polygons are compiled against the 1:250,000 National Topographic Database (NTDB) and are in the Department of Environment standard projection.

Projection: Albers Equal Area Conic
Datum: NAD83
Spheroid: GRS80
Central Meridian: 132°30'00" W (-132.5 decimal degrees)
Reference Latitude: 59°00'00" N
1st Standard Parallel: 61°40'00" N (61.6666667 decimal degrees)
2nd Standard Parallel: 68°00'00" N
False Easting: 500,000 m
False Northing: 500,000 m